INDEX TO VOLUME 21

1991 Volume 21, Number 1	January
J.G.M. van MIER: Mode I Fracture of of Concrete: Discontinuous Crack Growth and Crack	k
Interface Grain Bridging	
Radioactive Waste Forms	
A. TUCEK and J. BARTAK: Mathematical Modelling of the Dynamics of the Concrete Mi	
Y. ZENG and N. YANG: A Comparative Study of the Ferritephase in High-Iron Cements w	
the Pure $C_2A_xF_{1-x}$ by Mossbauer Spectroscopy	
O.S.B. Al-AMOUDI, RASHEEDUZZAFAR and M. MASLEHUDDIN: Carbonation and	
Corrosion of Rebars in Salt Contaminated OPC/PEA Concretes	
Alumina Cements - Hydration Behaviour. I	
H. STRUNGE, S. CHATTERJI and A. D. JENSEN: Studies of Alkali-Silica Reaction:	
Part 8. Correlation between Mortar-Bar Expansion and Δ Values	61
R.E. STEINKE, M.R. SILSBEE, D.K. AGRAWAL, R. ROY and D.M. ROY: Developm	
of Chemically Bonded Ceramics in the CaO-SiO ₂ -P ₂ O ₅ -H ₂ O System	
Y. BERTHAUD: Damage Measurements in Concrete via an Ultrasonic Technique. Part I. E.	
O.P. SHRIVASTAVA, S. KOMARNENI and E. BREVAL: Mg ²⁺ Uptake by Synthetic To	
morite and Xonotlite	
C. SHI, X. WU and M. TANG: Hydration of Alkali-Slag Cements at 150°C E. DOUGLAS, A. BILODEAU, V.M. MALHOTRA and J. BRANDSTETR: Alkali Activ	
Ground Granulated Blast-Furnace Slag Concrete: Preliminary Investigation	
A. SAASEN, C. MARKEN, J. DAWSON and M. ROGERS: Oscillating Rheometer Meas	
on Oilfield Cement Slurries	
R. SERSALE, R. CIOFFI, G. FRIGIONE and F. ZENONE: Relationship between Gypsu	
Content, Porosity, and Strength in Cement. I. Effect of SO ₃ on the Physical Microstructu	
Portland Cement Mortars	
D. PENEV and M. KAWAMURA: Moisture Diffusion in Soil-Cement Mixtures and Comp	nacted
Lean Concrete	
M.D. COHEN and B. MOBASHER: Effects of Sulfate and Expansive Clinker Contents on	
Expansion Time of Expansive-Cement Paste	
N. BANTHIA and J-F. TROTTIER: Deformed Steel Fiber - Cementitious Matrix Bond un	
Z. SU, J.M.J.M. BIJEN and J.A. LARBI: The Influence of Polymer Modification on the A	dhesion
of Cement Pastes to Aggregates	
K.O. KJELLSEN, R.J. DETWILER and O.E. GJORV: Development of Microstructures	
Plain Cement Pastes Hydrated at Different Temperatures	179
DISCUSSIONS	
J. Bensted	190
K. Rajczyk	
S. Chatterji	
T. Knudsen	198
S. Chatterji	
S. Chatterji	
G.W. Groves	201
NEWS ITEMS	202

M. YU. LESHCHINSKY, V.A. VELICHKO and A.M. LESHCHINSKY: The Use of Fly Ash	
in Concretes Subject to Heat Treatment	205
Y. BERTHAUD: Damage Measurements in Concrete via an Ultrasonic Technique. Part II. Modeling	219
C. LOBO and M.D. COHEN: Pore Structure Development in Type K Expansive Cement Pastes	229
Z. SU, J.M.J.M. BIJEN and J.A. LARBI: Influence of Polymer Modification on the Hydration of	/
Portland Cement	242
C. ATZENI, A. MARCIALIS, L. MASSIDDA and U. SANNA: Mechanical and Thermohygrometric	272
Properties of Adhesion between PCMs and Cement Supports	251
N. HEARN and R.H. MILLS: A Simple Permeameter for Water or Gas Flow	257
P. NEUMANN-VENEVERE, HH. ZYSK and I. ODLER: An Artificial Concrete Aggregate	231
Made from Coal Combustion Ashes	262
S. CHATTERJI: On the Relevance of Expressed Liquid Analysis to the Chemical Processes Occurring	202
in a Cement Paste	269
K. KOBAYASHI and K. SHUTTOH: Oxygen Diffusivity of Various Cementitious Materials	273
S. SLANICKA: The Influence of Fly Ash Fineness on the Strength of Concrete	285
R.F. FELDMAN and J.J. BEAUDOIN: Pretreatment of Hardened Hydrated Cement Pastes for	203
	297
Mercury Intrusion Measurements	291
Y. OHAMA, K. DEMURA, K. KOBAYASHI, Y. SATOH and M. MORIKAWA: Pore Size	200
Distribution and Oxygen Diffusion Resistance of Polymer-Modified Mortars	309
H.T. CAO and V. SIRIVIVATNANON: Corrosion of Steel in Concrete with and without Silica	21/
Fume	316
D.P. BENTZ and E.J. GARBOCZI: Percolation of Phases in a Three-Dimensional Cement Paste	22.
Microstructural Model	325
J.E. UJKELYI and A.J. IBRAHIM: Hot Weather Concreting with Hydraulic Additives	345
Y. TONG, H. DU and L. FEI: Hydration Process of Beta-Dicalcium Silicate Followed by MAS and	
CP/MAS Nuclear Magnetic Resonance	355
C.H. BLAND and J.H. SHARP: A Conduction Calorimetric Study of Gasifier Slag-Portland Cement	
Blends	359
N. RAFAI, R. LETOLLE, P. BLANC, A. PERSON and P. GEGOUT: Isotope Geochemistry	
(13C, 18O) of Carbonation Processes in Concretes	368
M. MURAT and A. ATTARI: Modification of Some Physical Properties of Gypsum Plaster by	
Addition of Clay Minerals	378
K.O. KJELLSEN, R.J. DETWILER and O.E. GJØRV: Backscattered Electron Image Analysis of	
Cement Paste Specimens: Specimen Preparation and Analytical Methods	388
R. RUMM, H. HARANCZYK, H. PEEMOELLER and M.M. PINTAR: Proton Free Induction	
Decay Evolution during Hydration of White Synthetic Cement	391
DISCUSSIONS	
S. Chatterji	394
E.J. Garboczi	396
NEWS ITEMS	397

1991 Volume 21, Number 4	July
1991 Volume 21, Number 4	July
N. RETTA: Extract from Endod (Phytolacea Dodecandra), a Soap Berry Plant, in the Making of Concrete	401
CL. HWANG and DH. SHEN: The Effects of Blast-Furnace Slag and Fly Ash on the Hydration of	401
Portland Cement Bren: The Effects of Blast-Furnace Stag and Fly Asn on the Hydration of	410
M.S. ZAGHLOUL and M.N. YOUNS: Effects of Both Irradiation Energy and Annealing Temperatures	410
on Hall Voltage of New Concrete Mixer	426
P.J. DEWAELE, E.J. REARDON and R. DAYAL: Permeability and Porosity Changes Associated	720
with Cement Grout Carbonation	441
musi Comonit Orout Caroniauon	441

C. ATZENI, L. MASSIDDA and U. SANNA: Properties of Gas Concretes Containing High Proportion	
of PFA	455
S. SLANICKA: The Influence of Condensed Silica Fume on the Concrete Strength	462
QY. GAO and HB. HOU: Structural Model and Hydraulic Activity of Granulated Cinder in Electric	
Factories	471
E. NÄGELE: Correlation Between Zeta-Potential and Mechanical Properties for Cementitious Materials	478
M. SHARMA, VISHWAMITTAR, K.S. HARCHAND and D. RAJ: Mössbauer and X-Ray Diffraction	
Studies of Two Dry and Hydrated Portland Cements and Their Clinker	484
C.W. FARRELL, K.C. HOVER and P.W. PLUMLEY: Natural Remanent Magnetization of Portland	
Cement Concrete	489
K. BRANTERVIK and G.A. NIKLASSON: Circuit Models for Cement Based Materials Obtained from	
Impedance Spectroscopy	496
Y. TONG, H. DU and L. FEI: Comparison between the Hydration Processes of Tricalcium Silicate and	
Beta-Dicalcium Silicate	509
X. PING, J.J. BEAUDOIN and R. BROUSSEAU: Flat Aggregate-Portland Cement Paste Interfaces.	
I. Electrical Conductivity Models	515
E. DOUGLAS and G. POUSKOULELI: Prediction of Compressive Strength of Mortars Made with	
Portland Cement - Blast-Furnace Slag - Fly Ash Blends	523
Z. SU, J.M.J.M. BIJEN and J.A. LARBI: Influence of Polymer Modification on the Hydration of	
Portland Cement	535
N. NOMURA, H. MIHASHI and M. IZUMI: Correlation of Fracture Process Zone and Tension Softening	
Behavior in Concrete	545
F.O. OKAFOR: An Investigation on the Use of Superplasticizer in Palm Kernel Shell Aggregate Concrete	551
A.M.K. ABDELALIM and H.Y. GHORAB: The Effect of Bituminous Emulsion on the Sulfate	
Resistance of Cement Pastes	558
L. De CEUKELAIRE: Concrete Surface Deterioration due to the Expansion by the Formation of Jarosite	563
W. PRINCE, R. PERAMI and R. GREZES-BESSET: Role de la Soude dans les Reactions entre	
Alcalis et Granulats de Type Silico-Aluminates	575
S.W. YU and C.L. PAGE: Diffusion in Cementitious Materials: 1. Comparative Study of Chloride	0.0
and Oxygen Diffusion in Hydrated Cement Pastes	581
S.B. PARK, B.I. LEE and Y.S. LIM: Experimental Study on the Engineering Properties of Carbon	201
Fiber Reinforced Cement Composites	589
M.A. MUSTAFA and K.M. YUSOF: Mechanical Properties of Hardened Concrete in Hot-Humid	-
Climate	601
Z. RUSIN: A Mechanism of Expansion of Concrete Aggregate Due to Frost Action	614
K.A. HEISKANEN, H.C. RHIM and P.J.M. MONTEIRO: Computer Simulations of Limited Angle	
Tomography of Reinforced Concrete	625
S. GONI, C. ANDRADE and C.L. PAGE: Corrosion Behaviour of Steel in High Alumina Cement	020
Mortar Samples: Effect of Chloride	635
H. WANG and J.E. GILLOTT: Mechanism of Alkali-Silica Reaction and the Significance of Calcium	
Hydroxide	647
A. GEORGIADES, Ch. FTIKOS and J. MARINOS: Effect of Micropore Structure on Autoclaved	
Aerated Concrete Shrinkage	655
J. BENSTED, I.C. CALLAGHAN and A. LEPRE: Comparative Study of the Efficiency of Various	
Borate Compounds as Set-Retarders of Class G Oilwell Cement	663
DISCUSSIONS	
S. Chatterji	669
M.S. Khan	671
S. Chatterji · · · · · · · · · · · · · · · · · · ·	673
J.J. Beaudoin, V.S. Ramachandran and R.F. Feldman	674
J. Bensted	675
K. Kobayashi and Y. Uno	676
J. Bensted	678
J. Bensted	679
NIPSEC TYPING	600
NEWS ITEMS	680

M.R. ISMAIL and S.A.S. El-HEMALY: Hydration Kinetics of Cement Paste Containing Concrete	
Admixtures	683
V. YOGENDRAN, B.W. LANGAN and M.A. WARD: Hydration of Cement and Silica Fume Paste	691
M. FRIAS, M.I. SANCHEZ de ROJAS, M.P. LUXAN and N. GARCIA: Determination of Specific	
Surface Area by the Laset Diffraction Technique. Comparison with the Blaine Permeability Method	709
X. PING, J.J. BEAUDOIN and R. BROUSSEAU: Flat Aggregate-Portland Cement Paste Interfaces.	
II. Transition Zone Formation	718
Z. SU, J.M.J.M. BIJEN and H.A. LARBI: The Influence of Polymer Modification on the Adhesion of	
Cement Pastes to Aggregates	727
H. MIHASHI, N. NOMURA and S. NIISEKI: Influence of Aggregate Size on Fracture Process Zone of	
Concrete Detected with Three Dimensional Acoustic Emision Technique	737
W. PRINCE and R. PERAMI: Influence de la Chaux dans les Reactions entre Alcalis et Granulats de	
Type Silico-Aluminates	745
E. SENBETTA and W.L. DOLCH: The Effects on Cement Paste of Treatment with an Extended Set	
Control Admixture	750
R. TRETTIN, G. OLIEW, C. STADELMANN and W. WIEKER: Very Early Hydration of Dicalcium	
Silicate-Polymorphs	757
V.T. YILMAS and F.P. GLASSER: Early Hydration of Tricalcium Aluminate-Gypsum Admixtures in the	
Presence of Sulphonated Melamine Formaldehyde Super-Plasticizers	765
RASHEEDUZZAFAR, S. E. HUSSAIN and S.S. Al-SAADOUN: Effect of Cement Composition on	
Chloride Binding and Corrosion of Reinforcing Steel in Concrete	777
R.G. HUTCHISON, J.T. CHANG, H.M. JENNINGS and M.E. BRODWIN: Thermal Acceleration of	
Portland Cement Mortars with Microwave Energy	795
MH. ZHANG AND O.E. GJØRV: Effect of Silica Fume on Cement Hydration in Low Porosity Cement	173
Pastes	800
J.J. BEAUDOIN, V.S. RAMACHANDRAN and R.F. FELDMAN: Identification of Hydration Reactions	000
	809
Through Stresses Induced by Volume Change. I. C ₃ A Systems	803
P.S. MANGAT and B.T. MOLLOY: Influence of PFA, Slag and Microsilica on Chloride Induced	010
Corrosion of Reinforcement in Concrete	819
M. BARRIOULET, R. SAADA AND E. RINGOT: A Quantitative Structural Study of Fresh Cement Paste	025
by Image Analysis. Part I. Image Processing	835
M. PIGEON, R. GAGNE, PC. AITCIN and N. BANTHIA: Freezing and Thawing Tests of High-Strength	044
Concretes	844
B. FOURNIER and M.A. BERUBE: Application of the NBRI Accelerated Mortar Bar Test to Siliceous	
Carbonate Aggregates Produced in the St. Lawrence Lowlands (Quebec, Canada). Part I: Influence of	
Various Parameters on the Test Results	853
M. MOUKWA, M. BRODWIN, S. CHRISTO, J. CHANG and S.P. SHAH: The Influence of the	
Hydration Process upon Microwave Properties of Cements	863
L. REDLER: Quantitative X-ray Diffraction Analysis of High Alumina Cements	873
HJ. KUZEL and H. POLLMANN: Hydration of C ₃ A in the Presence of Ca(OH) ₂ , CaSO ₄ ·2H ₂ O and	
CaCO ₃	885
V. NAIDENOV: Rapid Hardening Cement-Gypsum Composites for Shotcreting on the Base of Bulgarian	
Raw Materials. Part I. Introduction, Materials, Design of the Composition, Strength and Deformability	896
J. OLEK and S. DIAMOND: Alteration of Polished Sections of Free Lime Containing Cement Clinker by	
Short-Term Atmospheric Exposure	905
A. SAASEN, E. RAFOSS and A. BEHZADI: Experimental Investigation of Rheology and Thickening	
Time of Class G Oil Well Cement Slurries Containing Glycerin	911
S.L. SARKAR and PC. AITCIN: Phenomenological Investigation of Concrete Deterioration in a Median	
Barrier	917
Y. BERTHAUD, E. RINGOT and D. FOKWA: A Test for Delaying Localization in Tension. Experimental	
Investigation	928
I.B. PLECAS, A.D. PERIC, J.D. DRIJACA AND A.M. KOSTADINOVIC: Mathematical Modeling of	
Physico-Chemical Characteristics of Concrete in Immobilization of Radioactive Waste	941
P.I.M. MONTEIRO: A Note on the Hirsch Model	947

DISCUSSIONS	
W.G. Hime	951
E. Scholl and D. Knöfel	
M.N. Haque and O.A. Kayyali	
O.S.B. Al-Amoudi, Rasheeduzzafar and M. Maslehuddin	
P.W. Brown and P. LaCroix	
NEWS ITEMS	959

1991 Volume 21, Number 6	November
Volume 21, Number 0	November
D. BREYSSE and N. SCHMITT: A Test for Delaying Localization in Tension. N	
Interpretation Through a Probabilistic Approach	
I. ODLER and H. KÖSTER: Investigation on the Structure of Fully Hydrated Port	
and Tricalcium Silicate Pastes. III. Specific Surface Area and Permeability	
Z. SU, J.A. LARBI and J.MJ.M. BIJEN: The Interface Between Polymer-Modifie	d Cement Paste
and Aggregates · · · · · · · · · · · · · · · · · · ·	983
M. ATKINS, D. MACPHEE, A. KINDESS and F.P. GLASSER: Solubility Property	erties of
Ternary and Quaternary Compounds in the CaO-Al ₂ O ₃ -SO ₃ -H ₂ O System	991
X. PING, J.J. BEAUDOIN and R. BROUSSEAU: Effect of Aggregate Size on Tr	
Properties at the Portland Cement Paste Interface	
MH. ZHANG and O.E. GJØRV: Effect of Silica Fume on Pore Structure and Ch	
of Low Porosity Cement Pastes	
A. DUREKOVIC AND B. TKALCIC-CIBOCI: Cement Pastes of Low Water to	Solid Datio: An
Investigation of the Polymerization of Silicate Anions in the Presence of a Super	•
Silica Fume	
A. GABRISOVA, J. HAVLICA and S. SAHU: Stability of Calcium Sulphoalumin	
in Water Solutions with Various pH Values	
V. NAIDENOV: Rapid Hardening Cement-Gypsum Composites for Shotcreting on	
Raw Materials. Part II. Structural Investigations, Tests in Production Conditions	
RASHEEDUZZAFAR, S.E. HUSSAIN and A.S. Al-GAHTANI: Pore Solution C	•
and Reinforcement Corrosion Characteristics of Microsilica Blended Cement Cor	ncrete 1035
Z. LIU, X. CUI AND M. TANG: MgO-Type Delayed Expansive Cement	1049
R. SAADA, E. RINGOT and M. BARRIOULET: A Quantitative Structural Study	y of Fresh Cement
Paste by Image Analysis. Part 2: Measurements and Their Application	1058
B. FOURNIER and M.A. BÉRUBÉ: Application of the NBRI Accelerated Mortar	Bar Test to Siliceous
Carbonate Aggregates Produced in the St. Lawrence Lowlands (Quebec, Canada)	
Limits, Rates of Expansion, and Microstructure of Reaction Products	
D.G. MONTGOMERY and G. WANG: Instant-Chilled Steel Slag Aggregate in C	
Related Properties	
R.K. DHIR, M.R. JONES and A.M.G. SENEVIRATNE: Diffusion of Chlorides	
Influence of PFA Quality	
M.N. HAQUE, M.K. GOPALAN and D.W.S. HO: Estimation of Insitu Strength of	
A. PAPO and B. CAUFIN: A Study of the Hydration Process of Cement Pastes by	
Oscillatory Rheological Techniques	
X. HU and F.H. WITTMANN: An Analytical Method to Determine the Bridging	
within the Fracture Process Zone: I. General Theory	
CH. FTIKOS, A. GEORGIADES and TH. PHILIPPOU: Preparation and Hydra	
Alinite Cement	
X. AIMIN and S.L. SARKAR: Microstructural Study of Gypsum Activated Fly A	
Cement Paste	
P.F.G. BANFILL, R.E. CARTER and P.J. WEAVER: Simultaneous Rheologica	d and Kinetic
Measurements on Cement Pastes	
I A OAZWEENI and O. V. DAOLID. Concrete Deterioration in a 20 Year Old St	moture in Vancoit 1155

R.A. COOK and K.C. HOVER: Experiments on the Contact Angle Between Mercury and Hardened	
Cement Paste	1165
G. GOSWAMI, B.N. MOHAPATRA and J.D. PANDA: Characterization of Burning Condition	
of Cement Clinker by X-ray Diffractometry	1176
DISCUSSIONS	
H.G. Sreenath and N.P. Rajamane	1180
O.S.B. Al-Amoudi, Rasheeduzzafar and M. Maslehuddin	1183
S. Chatterji	1185
D.P. Bentz and E.J. Garboczi	1187
P. Paulini	1189
C.H. Bland and J.H. Sharp	1191
NEWS ITEMS	1192
	1195
	1200
Author Index	1202

KEYWORD INDEX

CaO-Al₂O₃-SO₃-H₂O, 991

Acoustic Emission, 545, 737
Adhesion, 169, 727
Admixtures, 401 614, 683
Aerated Concrete, 655
Aggravation, 647
Aggregates, 169, 535, 718, 727, 745, 983
Aggregate Size, 737, 999
Alinite Cement, 1129
Alkali, 745
Alkali-Activated Slag, 101
Alkali-Activated Slag Cement, 16
Alkali-Aggregate Reaction, 575, 853
Alkali-Silica Reaction, 61, 647
Alkali-Slag Cements, 92
Aluminous Cement Mortar, 635
Analysis, 963, 1118
Annealing Temperature, 426
Ash, 262
Atmosphere, 127
Autoclaving, 655
Backscatter, 388

Backscatter, 388 β-C₂S, 355 Bituminous Emulsion, 558 Blaine, 709 Borates, 663 Bridging Stress, 1118 Burning Condition, 1176 CaCO₃, 885 Ca(OH)2, 647, 885 CaO Alteration, 905 Ca Sulphoaluminate Hydrates, 1023 Ca₃SiO₅, 975 Calorimetry, 1148 C₃A Hydration, 809, 885 C₃S, 509 C₂S, 509, 757 Carbon, 368 Carbonation, 38, 441 CO₂, 127 Carbon Fiber, 589 Cement, 691, 1028 Cement Bond, 158 Cement Composites, 589 Cement Composition, 777 Cement-Gypsum Composites, 896 Cement Hydrate, 484 Cement Hydration, 242, 410 Cementitious Materials, 273 Cement Mortars, 523 Cement Pastes, 127, 179, 388, 515, 683, 727, 750, 795, 975, 1137, 1148 Cement Processes, 269 Cs Immobilization, 941 Chemically Bonded Ceramics, 66

Chloride, 635, 819, 1092 Chloride Binding, 777 Chloride Diffusivity, 1006 Cinder, 471 Circuit Models, 496 Clay Minerals, 378 Clinkers, 484, 873, 905, 1176 Compounds, 991 Computed Tomography, 625 Concrete, 1, 101, 205, 316, 368, 426, 462, 489, 545, 563, 601, 614, 941, 1035, 1083, 1092 Concrete Aggregate, 262 Concrete Deterioration, 1155 Concrete Mix, 21 Concrete Strength, 285 Conduction Calorimetry, 359 Conductivity, 515 Contact Angle, 1165 Corrosion, 38, 635, 777, 819, 1035 Crack Growth, 1 Cryo Sublimation, 835 Damage, 73, 219, 625 Delay, 928, 1049 Deterioration, 917 Diffusion, 137, 1092 Dolostones, 853 Dynamics, 21

Early Hydration, 765
Electrical Conductivity, 863
Electric Factories, 471
Endod Berry Extract, 401
Epoxy, 905
Epoxy Impregnation, 835
Estimation, 1103
Expansion, 563, 614, 1069
Expansive Cements, 229, 1049
Expansive Clinker, 147
Experiments, 928
Extended Set Control, 750

Ferrite, 31
Flat Aggregate, 515
Fly Ash, 205, 410, 523, 819
Fly Ash Fineness, 285
Fly Ash Quality, 1092
Fracture, 1
Fracture Process, 545
Fracture Process Zone, 737, 1118
Freezing-Thawing, 844
Fresh Paste, 835, 1058
Frost, 614
Fully Hydrated, 975

Gas, 257
Gas Concretes, 455
Glycerin, 911
Granulometry, 1058
Grout, 441
Gypsum, 765, 885, 1028
Gypsum-Activated Fly Ash, 1137
Gypsum Content, 120
Gypsum Plaster, 378

Hall Effect, 426 Heating, 795 Heat Treatment, 205 High-Alumina Cements, 51, 873 High Fly Ash Content, 455 High Iron Cements, 31 High Strength Concretes, 844 High Temperature, 91 Hirsch Model, 947 Hot-Humid Climate, 601 Hot Weather Concreting, 345 Hydration, 91, 355, 391, 509, 683, 691, 1111, 1129 Hydraulic Activity, 471 Hydroxysodalite, 575 Hygrometric Stress, 251

Image Analysis, 835, 1058 Impact, 158 Impedance Spectroscopy, 496 Infinite Sample Method, 863 Insitu Strength, 1103 Interfaces, 242, 515, 718, 983 Interfacial Stress, 809 Irradiation, 426 Isotope Geochemistry, 368

Jarosite, 563

Kaolin, 575 Kinetics, 683, 1148 Kuwait, 1155

Laser Diffraction, 709
Lean Concrete, 137
Lime, 745
Limestones, 853
Low Porosity Pastes, 800

Magic-Angle NMR, 355 Mg²⁺ Uptake, 83 MgO, 1049 Mechanical Properties, 478, 601 Mechanochemical Activation, 51 Median Barrier, 917 Melamine Superplasticizers, 765 Mercury Porosimetry, 297, 1165 Microcracking, 928 Micropore Structure, 655 Microstructures, 179, 1137 Microstructure Simulation Model, 325 Microwave, 795, 863 Modelling, 21, 219, 941 Moisture, 137 Mortars, 120, 478, 496 Mössbauer, 31, 484

NBRI Accelerated Test, 953 NBRI Test, 1069 Non-Evaporable Water, 800 Notch, 1 NMR, 391

OH⁻ Change, 61
Oilfield Cements, 109
Oil Well Cement, 663, 911
Oscillating Rheometer, 109
Oscillatory Rheology, 1111
Oxygen, 368
Oxygen Diffusion, 309
Oxygen Diffusivity, 273

Palm Kernel Shell Aggregate, 551 Pastes, 297, 478, 558, 718, 999, 1111, 1165 Percolation, 325 Permeability, 441, 941 Permeameter, 257 Permittivity, 863 pH, 1023 Phases, 873 Phosphates, 66 Polymer Cement Mortars, 251 Polymer Effects, 242 Polymer Modification, 727 Polymer Modified Cement, 169, Polymer-Modified Paste, 983 Polymers, 309 Polymorphs, 757 Pore Liquid, 269 Pore Size Distribution, 309 Pore Solution, 1035 Pore Structure, 229, 1006 Porosity, 120, 441 Prediction, 523 Preparation, 1129 Pretreatment, 297 Probabilistic Model, 963 **Properties**, 378, 455 Protons, 391

Radioactive Waste, 16, 941
Rapid-Hardening Composites, 1028
Reactivity, 745
Rebars, 38
Reinforced Concrete, 625, 917
Reinforcement, 589
Remanent Magnetism, 489
Resin Matrix, 614
Restraint, 229
Rheology, 911, 1148

Salt, 38 SEM, 388, 835, 905 Set Retarders, 663 Shielding, 426 Shotcrete, 896 Silica Fume, 316, 462, 691, 800, 819, 844, 1006, 1015, 1035 Silicate Anions, 1015 Siliceous Carbonate Aggregates, 1069 Similarities, 750 Slag, 345, 410, 523, 819 Slag-Cement Blends, 359 Slump, 401 NaOH, 575 Softening, 545 Soil-Cement, 137 Sol-Gel, 66 Solid State NMR, 509 Solubilities, 991 Stability, 1023

Steel, 635
Steel Corrosion, 316
Steel Fiber, 158
Steel Slag Aggregate, 1083
Strain Localization, 928
Strength, 66, 120, 462, 523, 1083
Structure, 471
Sulfate, 147
Sulfate Resistance, 558
SO₂, 127
Superplasticizer, 551, 1015
Surface Area, 709, 975
Surface Deterioration, 563
Synthesis, 262

Temperature, 179
Tensile Test, 963
Tension, 545
Thermal, 251
Thickening Time, 911
Thin Coatings, 809
Time, 147
Tobermorite, 83
Transition Zone, 535, 718, 999
Tuff, 345
20-Years Old, 1155

Ultrasonic Measurements, 73, 219

Very Early Hydration, 757

Water, 257 White Cement, 391

Xonotlite, 83 XRD, 484, 873, 885, 1176

Zeolite, 896 Zeta-Potential, 478

AUTHOR INDEX

Abdelalim, A.M.K., 558 Agrawal, D.K., 66 Aimin, X., 1137 Aitcin, P.-C., 844, 917 Al-Amoudi, O.S.B., 38, 956, 1183 Al-Gahtani, A.S., 1035 Al-Saadoun, 777 Andrade, C., 635 Atkins, M., 991 Attari, A., 378 Atzeni, C., 251, 455

Banfill, P.F.G., 1148 Banthia, N., 158, 844 Barrioulet, M., 835, 1058 Bartak, J., 21 Beaudoin, J.J., 297, 515, 674, 718, 809, 999 Behzadi, A., 911 Bensted, J., 190, 663, 675, 678, 679 Bentz, D.P., 325, 1187 Berthaud, Y., 73, 219, 928 Bérubé, M.A., 853, 1069 Bijen, J.M.J.M., 169, 242, 535, 727, 983 Bilodeau, A., 101 Blanc, P., 368 Bland, C.H., 359, 1191 Brandstetr, J., 101 Brantervik, K., 496 Breval, E., 83 Breysse, D., 963 Brodwin, M.E., 795, 863 Brousseau, R., 515, 718, 999 Brown, P.W., 958

Callaghan, I.C., 663
Cao, H.T., 316
Carter, R.E., 1148
Caufin, B., 1111
Chang, J.T., 795, 863
Chatterji, S., 61, 196, 199, 200, 269, 394, 669, 673, 1185
Christo, S., 863
Cioffi, R., 120
Cohen, M.D., 147, 229
Cook, R.A., 1165
Cui, X., 1049

Daoud, O.K., 1155
Dawson, J., 109
Dayal, R., 441
De Ceukelaire, L., 563
Demura, K., 309
Detwiler, R.J., 179, 388
Dewaele, P.J., 441
Dhir, R.K., 1092
Diamond, S., 905
Dolch, W.L., 750
Douglas, E., 101, 523
Drijaca, J.D., 941
Du, H., 355, 509
Durekovic, A., 1015

El-Hemaly, S.A.S., 683

Farrell, C.W., 489 Fei, L., 355, 509 Feldman, R.F., 297, 674, 809 Fokwa, D., 928 Fournier, B., 853, 1069 Frias, M., 709 Frigione, G., 120 Ftikos, Ch., 655, 1129 Gabrisová, A., 1023 Gagne, R., 844 Gao, Q.-Y., 471 Garboczi, E.J., 325, 396, 1187 Garcia, N., 709 Gegout, P., 368 Georgiades, A., 655, 1129 Ghorab, H.Y., 558 Gillott, J.E., 647 Gjørv, O.E., 179, 388, 800, 1006 Glasser, F.P., 765, 991 Goñi, S., 635 Gopalan, M.K., 1103 Goswami, G., 1176 Grezes-Besset, R., 575 Groves, G.W., 201

Haque, M.N., 953, 1103 Haranczyk, H., 391 Harchand, K.S., 484 Havlica, J., 1023 Hearn, N., 257 Heiskanen, K.A., 625 Hime, 951 Hou, H.-B., 471 Hover, K.C., 489, 1165 Hu, X., 1118 Hussain, S.E., 777, 1035 Hutchison, R.G., 795 Hwang, C.-L., 410

Ibrahim, A.J., 345 Ismail, M.R., 683 Izumi, M., 545

Jennings, H.M., 795 Jensen, A.D., 61 Jones, M.R., 1092 Kawamura, M., 137 Khan, M.S., 671 Kindess, A., 991 Kjellsen, K.O., 179, 388 Knöfel, D., 127, 952, 953 Knudsen, T., 198 Kobayashi, K., 273, 309, 676 Komarneni, S., 83 Kostadinovic, A.M., 941 Köster, H., 975 Kuzel, H.-J., 885

LaCroix, P., 958
Langan, B.W., 691
Larbi, J.A., 169, 242, 535, 727, 983
Lee, B.I., 589
Lepre, A., 663
Leshchinsky, A.M., 205
Leshchinsky, M. Yu., 205
Letolle, R., 368
Lim, Y.S., 589
Liu, Z., 1049
Lobo, C., 229
Luxan, M.P., 709

Macphee, D., 991 Malhotra, V.M., 101 Mangat, P.S., 819 Marcialis, A., 251 Marinos, J., 655 Marken, C., 109 Maslehuddin, M., 38, 956, 1183 Massidda, L., 251, 455 Mihashi, H., 545, 737 Mills, R.H., 257 Mobasher, B., 147 Mohapatra, B.N., 1176 Molloy, B.T., 819 Monteiro, P.J.M., 625, 947 Montgomery, D.G., 1083 Morikawa, M., 309 Moukwa, M., 863 Murat, M., 378 Mustafa, M.A., 601

Nägele, E., 478 Naidenov, V., 896, 1028 Neumann-Venevere, P., 262 Niiseki, S., 737 Niklasson, G.A., 496 Nomura, N., 545, 737

Odler, I., 262, 975 Ohama, Y., 309 Okafor, F.O., 551 Olek, J., 905 Oliew, G., 757

Page, C.L., 581, 635 Panda, J.D., 1176 Papo, A., 1111 Park, S.B., 589 Paulini, P., 1189 Peemoeller, H., 391 Penev, D., 137 Perami, R., 575, 745 Pereira, E., 51 Peric, A.D., 941 Person, A., 368 Philippou, Th., 1129 Pigeon, M., 844 Ping, X., 515, 718, 999 Pintar, 391 Plecas, I.B., 941 Plumley, P.W., 489 Pollmann, H., 885 Porto Lopez, J.M., 51 Pouskouleli, G., 523 Prince, W., 575, 745

Qazweeni, J.A., 1155

Rafai, N., 368 Raj, D., 484 Rajamane, N.P., 1180 Rajczyk, K., 192 Ramachandran, V.S., 574, 809 Rasheeduzzafar, 38, 777, 956, 1035, Reardon, E.J., 441 Redler, L., 873 Retta, N., 401 Rhim, H.C., 625 Ringot, E., 835, 928, 1058 Rogers, M., 109 Rojas, M.I. Sanchez de, 709 Roy, D.M., 66 Roy, R., 66 Rumm, 391 Rusin, Z., 614

Saada, R., 835, 1058 Saasen, A., 109 Sahu, S., 1023 Sanna, U., 251, 455 Sarkar, S.L., 917, 1137 Satoh, Y., 309 Schmitt, N., 963 Scholl, E., 127, 952 Scian, A.N., 51 Senbetta, E., 750 Seneviratne, A.M.G., 1092 Sersale, R., 120 Shah, S.P., 863 Sharma, M., 484 Sharp, J.H., 359, 1191 Shen, D.-H., 410 Shen, X., 16 Shi, C., 91 Shrivastava, O.P., 83 Shuttoh, K., 273 Silsbee, M.R., 66 Sirivivatnanon, V., 316 Slanicka, S., 285, 462 Sreenath, H.G., 1180 Stadelmann, C., 757 Steinke, R.E., 66 Strunge, H., 61 Su, Z., 169, 242, 535, 727, 983

Tang, M., 16, 91, 1049 Tkalcic-Ciboci, B., 1015 Tong, Y., 355, 509 Trettin, R., 757 Trottier, J-F., 158 Tucek, A., 21

Ujhelyi, J.E., 345 Uno, Y., 676

Velichko, V.A., 205 van Mier, J.G.M., 1 Vishwamittar, 484

Wang, G., 1083 Wang, H., 647 Ward, M.A., 691 Weaver, P.J., 1148 Wieker, W., 757 Wittmann, 1118 Wu, X., 16, 91

Yang, L., 16 Yang, N., 31 Yen, S., 16 Yilmas, V.T., 765 Yogendran, V., 691 Youns, M.N., 426 Yu, S.W., 581 Yusof, K.M., 601

Zaghloul, M.S., 426 Zeng, Y., 31 Zenone, F., 120 Zhang, M.-H., 800, 1006 Zysk, K.-H., 262 Reproduced with the permission of Pergamon Press Inc., by University Microfilms Inc. Duplication or resale without permission is prohibited.

